REMARKS/ARGUMENTS

The Pending Claims

Currently pending claims 1-16 are directed to a method of coating surfaces of a substrate. Reconsideration of the pending claims is respectfully requested.

The Amendments to the Claims

Claim 13 has been amended to recite its dependence on claim 1 and to recite that the polymer is deposited as a nano layer so as to provide proper antecedent basis in view of the change in claim dependence. Claims 14 and 16 have been amended to recite their dependence on claim 1. No new matter has been added by way of this amendment.

Summary of the Office Action

Claims 13-16 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Claims 1-5, 8, 10, 12, and 14-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Cox et al. (i.e., U.S. Patent 3,393,162). Claims 6, 7, 9, 11, and 13 stand rejected under 35 U.S.C. § 103(a) as obvious over Cox et al. alone, or in combination with, "Addition Polymerization" (i.e., Fred M. Peng, *Addition Polymerization* in Encyclopedia of Polymer Science and Engineering, vol. 1, pp. 470-471 (1973)), "Surface Treatment" (i.e., Temple C. Patton, *Surface Treatment of Organic Pigments*, Pigment Handbook, vol. 2, p. 165 (1985)), and Herman et al. (i.e., U.S. Patent 3,884,871).

Summary of Examiner Interview

Applicants thank Examiner Turocy for the courtesies extended to applicants' undersigned agent Caryn Borg-Breen, during the telephonic interview of September 12, 2005. The anticipation rejection was discussed, consistent with the remarks set forth herein.

Discussion of the Indefiniteness Rejection

The indefiniteness rejections are moot in view of the amendments to claims 13, 14 and 16 to recite their dependence on claim 1. Accordingly, the indefiniteness rejection is improper and should be withdrawn.

Discussion of the Anticipation and Obviousness Rejections

The anticipation and obviousness rejections are respectfully traversed.

The Office Action asserts that Cox et al. teaches a method of coating a substrate in which a change in solvent polarity causes one component of a copolymer to precipitate onto the substrate and asserts that such method inherently results in a breaking of at least one chemical bond of the copolymer and the formation of a new polymer for deposition on the particle. The Office Action further asserts that such bond breaking reaction is a solvolysis reaction as required by the invention recited in the pending claims. Contrary to the assertion in the Office Action, Cox et al. does not teach any such bond-breaking reaction.

Cox et al. discloses a method of coating substrates by (i) dispersing the substrates in a liquid solution of a block or graft copolymer having a first and second component and (ii) changing the polarity of the liquid so as to cause at least one component of the copolymer to precipitate out of the liquid and onto the substrate while the second component remains solvated by the liquid so as to prevent the substrates from flocculating. Nothing in Cox et al. teaches or suggests that the copolymer undergoes a bond breaking reaction as a result of the change in solvent polarity. Contrastingly, Cox et al. discloses that when the first component precipitates onto the substrate (e.g., a solid particle), the second component "remains in solution, or more correctly, remains solvated by the liquid" (see, e.g., col. 1, lines 51-56) and that by remaining in solution, the second component acts to "enhance the stability of the particles in the dispersion" by preventing flocculation (see, e.g., col. 1, lines 56-72). The presence of the second copolymer component covalently bound to the first copolymer component precipitated on the substrate particle surface, but solvated by the liquid, prevents two or more substrate particles from flocculating by acting as a physical barrier to contact between adjacent substrate particles in the liquid.

There is no teaching in Cox et al. other than a simple physical deposition of a portion of the block or graft copolymer on the substrate surface. The deposition is caused by modifying the solvent polarity such that a first component of the copolymer chain becomes insoluble in the solvent and physically adheres to the substrate surface

while a second component of the copolymer chain remains solvated by the liquid and thus continues to interact with the liquid or solvent environment rather than the substrate surface. The second component of the copolymer chain thus sticks out from the surface of the substrate and is surrounded by solvent molecules (i.e., is solvated) which helps to stabilize the coated particles in the dispersion. The process in Cox et al. does not involve breakage or formation of chemical bonds as is required by a solvolysis reaction as recited in the pending claims.

Nothing in "Addition Polymerization," "Surface Treatment," and/or Herman et al. cures the deficiencies of Cox et al. In particular, none of these cited references teaches or suggests a method of coating a substrate which involves carrying out a solvolysis reaction on a polymer containing derivatized functional groups so as to alter the solubility of the polymer and cause it to be deposited onto the surface of a substrate.

Since none of the cited references, when viewed alone or in combination, teach or suggest the method of coating a substrate recited in the pending claims, the anticipation and obviousness rejections are improper and should be withdrawn.

Klein et al.

In a conference call between Caryn Borg-Breen and the Examiner on October 4, 2005, the Examiner confirmed that the anticipation and obviousness rejections over Klein et al. (i.e., U.S. Patent 3,993,716) have been withdrawn. Nonetheless, Applicants wish to respond to comments regarding the disclosure of Klein et al. which are included on pages 3 and 4 of the Office Action.

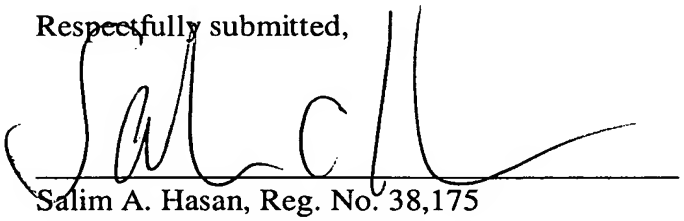
As discussed in response to the previous Office Action, Klein et al. does not teach or suggest a method of coating a substrate where a polymer undergoes a solvolysis reaction which causes its solubility to change. Rather Klein et al. discloses the polymerization of vinyl monomers to form polymer dispersions or solutions which can then be used as coating compositions, for example to coat steel panels (see, e.g., col. 18, lines 53-54). Klein et al. teaches that such coating is obtained by casting the polymer composition on a steel panel and then baking it at high temperature (see, e.g., col. 15, line 61-64, and col. 18, lines 53-55). Nothing in Klein teaches or suggests coating a

substrate by chemically modifying a polymer chain via solvolysis reaction so as to alter its solubility and cause it to be deposited onto the surface of a substrate, as required by the pending claims. Accordingly Klein et al. fails to anticipate or render obvious the invention recited in the pending claims.

Conclusion

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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